

CLAIMS

1. A method of forming a coating film on an aluminum substrate, comprising the steps of:

5 (1) coating an aluminum substrate with a thermosetting polyester resin lustrous powder base coating composition (a) containing a lustrous material, and baking the resulting base coat layer; and

10 (2) coating the base coat layer with a thermosetting acrylic resin clear powder coating composition (b), and baking the resulting clear coat layer to obtain a lustrous multilayer coating film.

2. A method of forming a coating film according to
15 claim 1, wherein the lustrous material in the lustrous powder base coating composition (a) is at least one member selected from the group consisting of resin-coated aluminum flakes, colored aluminum flakes, mica, titanium metal flakes, alumina flakes, silica flakes, graphite, stainless steel flakes, platy iron oxide,
20 and micaceous iron oxide.

3. A method of forming a coating film according to claim 1, wherein the lustrous powder base coating composition (a) comprises a carboxyl-containing polyester resin as a base resin,
25 and a β -hydroxyalkylamide as a crosslinking agent.

4. A method of forming a coating film according to claim 3, wherein the polyester resin is a polyester polycarboxylic acid resin having an acid value of about 10 to
30 about 100 KOH mg/g of resin.

5. A method of forming a coating film according to claim 3, wherein the polyester resin is a polyester polycarboxylic acid resin having a weight average molecular
35 weight of about 500 to about 50,000.

6. A method of forming a coating film according to claim 3, wherein the polyester resin is a polyester polycarboxylic acid resin having a softening temperature of about 50°C to about 140°C.

7. A method of forming a coating film according to claim 3, wherein the ratio of β -hydroxyalkylamide to carboxyl-containing polyester resin is such that the number of β -hydroxyalkylamide hydroxyl groups is about 1.2 to about 1.6 per polyester resin carboxyl group.

8. A method of forming a coating film according to claim 1, wherein the clear powder coating composition (b) comprises an epoxy-containing acrylic resin as a base resin, and a polycarboxylic acid and/or anhydride thereof as a crosslinking agent.

9. A method of forming a coating film according to claim 8, wherein the epoxy-containing acrylic resin has an epoxy equivalent of about 200 to about 800.

10. A method of forming a coating film according to claim 8, wherein the epoxy-containing acrylic resin has a weight average molecular weight of about 1,000 to about 10,000.

11. A method of forming a coating film according to claim 8, wherein the epoxy-containing acrylic resin has a softening temperature of about 50°C to about 140°C.

12. A method of forming a coating film according to claim 8, wherein the ratio of polycarboxylic acid and/or anhydride thereof to epoxy-containing acrylic resin is such that the total number of carboxyl groups and anhydride groups thereof in the polycarboxylic acid and/or anhydride thereof is about 0.6

-21-

to about 0.9 per acrylic resin epoxy group.